other; and he takes care to mention such other precautions as may not immediately occur to artists in the employment of a new apparatus, and to delineate accurately all those parts which might not be thoroughly understood by a mere verbal description.

Results of some recent Experiments on the Properties impressed upon Light by the Action of Glass raised to different Temperatures, and cooled under different Circumstances. By David Brewster, *LL.D. F.R.S. Edin. and F.A.S.Ed. in a Letter to the Right Hon. Sir* Joseph Banks, *Bart. K.B. P.R.S.* Read May 19, 1814. [*Phil. Trans.* 1814, *p.* 436.]

The author, being engaged in making a variety of experiments on resinous and other bodies that could be fused between plates of glass, remarked a partial depolarization while the subject of examination was hot, but which diminished on cooling, and consequently could not be ascribed to incipient crystallization. He therefore tried a plate of glass alone; and having previously raised its temperature almost to a red heat, he found that a ray of polarized light became completely depolarized by its passage through it: and he further thence infers, that glass brought to a certain temperature forms two images, and polarizes them like all doubly refracting crystals, only that the two images are, in fact, coincident, instead of being separated.

Since in the formation of the glass-tears, called Prince Rupert's drops, which are made by dropping melted glass into cold water, it is probable that in consequence of the sudden consolidation at the surface, the interior part is prevented from contracting, and consequently retains, in some measure, that relative distance of its particles which obtained in the fluid state, the author conceived these drops to be a fit subject for an interesting experiment; and having procured several such drops, made of white flint-glass, he cut and polished one of them by two planes at right angles to the axis, and a second by two planes parallel to its axis and to each other. When polarized light was transmitted through a drop in either of these directions, it was found to be depolarized; but there was not any position in which the transmitted ray would retain its polarization, as is found in corresponding experiments with crystallized substances.

Consideration of various Points of Analysis. By John F. W. Herschel, *Esq. F.R.S.* Read May 19, 1814. [*Phil. Trans.* 1814, *p.* 440.]

This paper is divided into four sections, the first of which treats of the calculus of generative functions, and relates solely to characteristic notation, and to the method of separating the symbols of operation from those of quantity. The second relates to logarithmic transcendants, with a variety of remarkable results deduced from them. The third relates to functional equations. The fourth to differential equations of the first degree. But the whole of this paper was of a nature not adapted for public reading.